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ABSTRACT

Howard Gardner's "Theory of Multiple Intelligences" suggests that everyone is capable of at least seven "ways" of knowing. According to this theory, human beings know the world and solve problems through: (1) language; (2) logical-mathematical analysis; (3) visual-spatial representations; (4) musical thinking; (5) the use of the body; (6) an interpersonal understanding of others; and (7) an intrapersonal understanding of self. Individual differences occur in the relative strengths of each intelligence within a person and in the ways the intelligences are activated and combined to carry out various tasks and to solve problems. Multiple intelligence theory encourages teachers to expand their repertoire of techniques, tools, and strategies beyond the typical linguistic and logical ones predominantly used in classrooms. The choral rehearsal is, by nature, an experience that actively develops musical intelligence. However, each of the other intelligences can be activated, explored, and developed within the context of the general singing or choral rehearsal. The effective music educator is one who uses a variety of approaches to reach students. Each "way of knowing" is described, along with suggested activities for the choral director to use to reinforce specific intelligences. (Contains 14 references.) (ND)

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ED 411 240

APPLYING MULTIPLE INTELLIGENCE THEORY IN THE MUSIC CLASSROOM

In recent years, cognitive researchers have increasingly turned their interests to the human brain and the different ways that students learn, remember, perform, and understand. One exciting theory emerging from this research, Howard Gardner's "Theory of Multiple Intelligences," may have important implications for music educators, choral directors, and others interested in music instruction.

Gardner defines intelligence as "the ability to solve problems, or to create products, that are valued within one or more cultural settings," and he further suggests that all human beings are capable of at least seven "ways of knowing." According to this theory, everyone is able to know the world and to solve problems through: 1) language; 2) logical-mathematical analysis; 3) visual-spatial representations; 4) musical thinking; 5) the use of the body; 6) an interpersonal understanding of others; and, 7) an intrapersonal understanding of self.[1] Individual differences occur in the relative strengths of each intelligence within a person and in the ways the intelligences are activated and combined to carry out various tasks and solve problems. Multiple Intelligence theory makes its greatest contribution to education by encouraging teachers to expand their repertoire of techniques, tools, and strategies beyond the typical linguistic and logical ones predominantly used in classrooms.[2]

What are the implications of Multiple Intelligence theory for the choral rehearsal or the music classroom? Because people learn, represent, and use knowledge in many different ways,

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Gardner suggests effective learning takes place when teachers instruct in a variety of ways, providing opportunities for instruction and concept development in each of the intelligences.[3] Music accesses an intelligence infrequently used in other school experiences, thus giving it a unique position in the curriculum; but, often music educators make little use of any additional intelligence other than the verbal/linguistic. The choral director or music teacher can utilize a variety of methods to awaken and activate the other intelligences and maximize musical learning.

The choral rehearsal is, by nature, an experience that actively develops musical intelligence. This article will explore how each of the other intelligences can be activated, explored, and developed within the context of the general singing or choral rehearsal.

VERBAL/LINGUISTIC

The ability to use words effectively, the **verbal/linguistic intelligence**, includes an awareness of sounds, structures, meaning, and functions of words and language.[4] Most traditional classroom activities rely heavily on the verbal/linguistic activities of reading, writing, listening, and speaking. The learning and performance of music involve several intelligences other than the verbal/linguistic that are not as frequently utilized in regular classrooms; but for many students in the music classroom, the verbal/linguistic may be their dominant intelligence, and choral directors need to assess this in the rehearsal. Teachers can ask themselves the following questions to see if the verbal/linguistic intelligence is being accommodated: *How is the spoken word used in the rehearsal? Are the words chosen by the teacher appropriate to the students' level of understanding?*[5] *Does the teacher provide opportunities for students to think about the*

text of the music being sung? Does the teacher allow for "talk time" between and among students without compromising the pacing of the choral rehearsal?

The following represent instructional strategies which appear to reinforce the verbal/linguistic intelligence:

1. Select music with careful consideration to the text. Choose music with textual integrity whenever possible.
2. Read the text aloud as poetry before singing. Use choral chanting to focus on the text.
3. Sing a musical phrase several different ways and decide which most expressively reflects the text. Discuss why this is so.
4. Evaluate the "wedding" of the text to its musical setting. How effective is it?
5. Select a piece with a foreign language text. Work on the pronunciation.
6. Have students write or explain the steps involved in a technical vocal skill such as breathing.
7. Utilize warm-up exercises where the text itself describes the vocal skill or technique the student is to produce such as vocalizations found in Kenneth Jenning's, *Sing Legato*.[6]

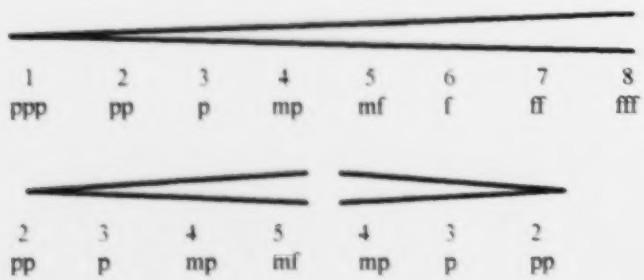
LOGICAL/MATHEMATICAL

Often called "scientific thinking," **logical/mathematical intelligence** is exemplified by the ability to manipulate symbols and numbers and by the recognition of abstract patterns and is used in situations requiring logical or numerical problem solving to meet new challenges. In music it is reflected in the ability to work with the symbols of music, to recognize musical and structural patterns, and to identify relationship of one aspect of music to another.

Learning to decode the notational/rhythmic system of music naturally utilizes the logical/mathematical intelligence. This intelligence also considers the following musical aspects: *How are numbers and symbols used within the rehearsal? Are analysis and critical thinking encouraged?*

Some techniques which appear to reinforce the logical/mathematical intelligence include:

1. Audio or videotape the rehearsal. Play back a portion asking students to critically analyze the errors or problems with the performance. Tape the same selection again a week later to compare/contrast the two performances.
2. Practice sight reading exercises with interval numbers or sol-fa syllables to help students function with the symbols of music.
3. Analyze the musical score looking for the overall structure of the piece (A-B-A, strophic, rondo, etc.).
4. Look for recurring or similar melodic or rhythmic patterns within a musical selection. Sing the patterns with numbers or syllables to reinforce the differences.
5. Compare/contrast the musical styles of pieces being performed.
6. Use numbers to graphically represent the dynamics of a musical phrase. Practice until students can recognize the relative differences in each step and can reproduce a level indicated by the director.



7. Plan for a generally predictable classroom environment (structure of time, sequence of rehearsal; consistency of routine; transitions to new activities) that is still flexible enough to facilitate required change.

VISUAL/SPATIAL

The **visual/spatial intelligence** relies on the sense of sight, including the ability to visualize an object, to create internal mental images and pictures, and to mentally transform an object from its original structure into something new. Visual/spatial, which is graphic oriented and deals with images rather than words, is often one of the least accessed intelligences and requires the most creativity to accommodate. It is worth the effort, however, because many students who are highly visual/spatial find processing auditory material difficult and can easily become lost in the "world of words." Questions teachers can ask to determine if they are activating the visual/spatial intelligence include: *Is there an introduction or reinforcement of learning using pictures, visualization, imagination, or metaphor? Is the room visually attractive and decorated appropriately? Is color used in appropriate ways?* [8]

Connections with the visual/spatial intelligence in the choral rehearsal may include:

1. When performing a piece of music in a particular style period, find a picture or piece of art that matches the mood or style. For example, match Claude Debussy's "Dieu! qu'il la fait bon regarder" from Trois Chansons [9] with Pierre Bonnard's "The Abduction of Europa,"[10] or Camille Pissarro's "The Garden of Les Mathurins at Pontoise" [11] to help visual students connect the impressionistic sound with a visual image.

2. For the concept of gradual, extended crescendo/diminuendo (such as Jean Berger's "Alleluia" from Brazilian Psalm),[12] have students picture or imagine a processional that begins far away, approaches, passes, and then disappears to help them "see" the gradations of dynamics.
3. To help students associate and produce varying tone qualities, use a color spectrum ranging from very dark to very light colors.
4. Use "word painting" or "word picture" techniques to help students feel a musical phrase. For example, in Randall Thompson's "Last Words of David,"[13] have students imagine the gradual sunrise after rain to help them produce the desired dynamic effects.

> *And he shall be as the light of the morning,*
>
> *when the sun riseth, even a morning without clouds;*
>
> *as the tender grass springing out of the earth*
>
> *by clear shining after rain.*

5. When possible, allow students to mark or highlight their scores in different colors or to draw graphic symbols or icons in the score.
6. Use imagery whenever possible to help students understand the abstract or physiological skills of vocal technique.
7. Be conscious of the visual aspects of the room: How is the furniture arranged? Is the room decorated attractively? Is color used effectively? Are there adequate sources of illumination that are warm and inviting?

BODY/KINESTHETIC

The **body/kinesthetic intelligence** indicates the skill with which one can control bodily movements as demonstrated by athletes and dancers. The following questions can be asked in this context: *Are there opportunities to move? Are there hands-on activities? Are adequate breaks from the cognitive aspects of the rehearsal provided?*

The making of music relies heavily on the body/kinesthetic functioning along with mental activities. The director may activate the body/kinesthetic intelligence in the following ways:

1. Clap, tap, or step rhythmic patterns having students "echo" back. This is especially effective if the pattern used is a troublesome one in a piece being practiced. After gaining the students' attention, the rhythmic pattern can then be placed back into the piece being studied.
2. Use proper vocal, pedagogical skills to connect the body to the desired sound. Teach students how to produce the sounds physiologically. Breathing, posture, and tone production all must be taught and reinforced through physical exercises that connect the verbal and the mental to the specific body action required to produce the desired effect.
3. In warm-ups or vocal exercises, incorporate hand, arm, or body movements that reinforce the concept.[14]
4. Add simple choreography or hand motions to the piece to emphasize either the text or the sound desired. For example, in a three-melody selection or a contrapuntal motive, let each part create a movement for its motive or have the group stand when their motive enters.
5. Have students conduct phrases as they sing to show dynamics or articulation, or learn the text in sign language.

6. Have students lean forward with weight on the forward foot as a phrase peaks.

7. Pace the rehearsal to keep students involved and on task and to move smoothly and quickly from one activity to the next. Proper pacing maintains students' focus and enthusiasm while still allowing for correction or re-teaching when needed. When reviewing a troublesome passage, re-teach emphasizing a different intelligence from the initial presentation.

INTERPERSONAL

Interpersonal intelligence exhibits itself as the ability to work cooperatively in a group, to communicate verbally and nonverbally with other people, and to notice distinctions among others, including moods, temperaments, motivations, and intentions.[15] This intelligence is more frequently activated in structured situations where reliance on other people is required for successful completion of a project and where people work together for a common goal. The following questions can be asked when considering the needs of the interpersonal learner: *Is there an atmosphere of belonging and trust? Are there established procedures for mediating conflict? Are there opportunities to interact with others in positive ways?*[16]

A choral rehearsal, by its nature, facilitates the interpersonal intelligence. Students must cooperate and work together to create an effective presentation. Many directors work to develop a "team" atmosphere with their students through development of student leadership roles, by encouraging a sense of belonging with T-shirts or pins, or by creating traditions that develop a sense of pride in the students. Some additional ideas directors might consider include:

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1. Work on intonation, tuning, or voice matching by having students face each other and sing in pairs or small groups. Have them listen carefully, working together to blend and match. Have students briefly discuss with their group what they heard.
2. Occasionally offer the group choices about which piece to rehearse next or what they feel the group needs to work on.
3. Involve the students in the evaluation process both individually and collectively. "With a partner, explain the most difficult part of this piece for you and what you think is needed to improve it." As a group, have them evaluate a performance, rehearsal, or piece. "What did you think? How did it go? What could be improved?" This lets students know their input is important and also facilitates good time management, as students often know and can verbalize what they need.
4. Encourage ensemble singing or vocal testing in small groups. This gives the uncertain or dependent singers the support they need, allows them to work with their small group to succeed, and still permits the teacher to hear what is needed for evaluation purposes.

INTRAPERSONAL

The **intrapersonal intelligence** demonstrates itself in the knowledge of the internal aspects of self such as knowledge of feelings, range of emotional responses, thinking processes (metacognition), self-reflection, and a sense of intuition. Intrapersonal intelligence includes the ability to make choices based on higher order reasoning and is the only intelligence that is reliant on the other intelligences to express itself. The questions teachers need to ask as they attempt to

activate the intrapersonal is: *Do students have opportunities to work independently and privately, to heighten self-concept, and to share feelings?*[17]

Even though the choral rehearsal is a group process that does not necessarily emphasize intrapersonal reflection, one must always keep in mind the power of music to individually effect emotions, feelings, and responses. Music can help students express their individual emotions, feelings, and responses. Some techniques that may be used in the choral rehearsal to help students develop their intrapersonal intelligences include:

1. Teach students the benefits of relaxation as an aid in developing concentration and reducing nervousness.
2. Heighten intrapersonal intelligence by reducing the visual. Have students sing a piece or listen to a recording with their eyes closed.
3. Feel the music internally; take away portions of the text and substitute humming.
4. Use the "silent singing" technique to further develop concentration, where students stop singing at a pre-determined place in the piece, and internally "hear" the song continue, and resume singing after the period of silence. For added concentration, have students close their eyes.
5. Have students keep a music journal or "learning log" reflecting on their progress in rehearsals. At the end of the rehearsal, students briefly respond in writing to questions like: *What was I expected to do? What did I do well? What help do I need?* Use open-ended questions for awareness of feelings: *This piece of music makes me feel . . .*
6. Develop individual musical growth by encouraging, but not requiring, solo singing.
7. Extend the group goal-setting idea utilized in the intrapersonal intelligence, by encouraging

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individual goal setting based on self-reflection. *What do I need to work on? What do I need to do to accomplish my goal? How will I evaluate my progress and how will I determine when I have accomplished my goal?*

The intrapersonal intelligence is most dependent on the willingness of the teacher to allow time for its development by modeling and by believing in its importance. It may be the most important link in helping students reach their highest levels of musical potential.

CONCLUSION

As music educators we understand and value the unique position of music not only in the curriculum, but in the lives of our students. The question that emerges from Gardner's Theory of Multiple Intelligence is *"Are we, as music educators, meeting the needs of all of the students in our classrooms?"* Different students can be reached in different ways. The effective teacher is one who utilizes a variety of ways to encourage both the love and the learning of music in each student.

Notes

1. Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences* (New York: Basic Books, 1983), p.11.

2. Thomas Armstrong, *Multiple Intelligences in the Classroom* (Alexandria, VA: Association for Supervision and Curriculum Development, 1994), p. 48.

3. David Lazear, *Seven Ways of Teaching* (Palatine, IL: IRI/Skylight Publishing, Inc., 1991), xx.

4. Armstrong, p.6.

5. Ibid, p. 86.

6. Kenneth Jennings, *Sing Legato* (San Diego, CA: Neil A. Kjos Music Company, 1982), V74A.

7. Armstrong, p. 58.

8. Ibid.

9. Claude Debussy, "Dieu! qu'il la fait bon regarder!" from *Trois Chansons* (Bryn Mawr, PA: Durand/Elkan-Vogal, Inc., 1908), 362-03316.

10. Bonnard, "The Abduction of Europa." In M. Gerstein, *Impressionism: Selections from Five American Museums* (New York: Hudson Hills Press, Inc, 1989), pp. 28-29.

11. Camille Pissarro, "The Garden of Les Mathurins at Pontoise," In M. Gerstein, *Impressionism: Selections from Five American Museums* (New York: Hudson Hills Press, Inc, 1989), pp. 146-147.

12. Jean Berger, "Alleluia" from *Brazilian Psalm* (New York: G. Schirmer, Inc., 1941), 1717.

13. Randall Thompson, *The Last Words of David* (Boston, MA: E. C. Schirmer, Inc., 1950), 2294.

14. Charlotte Adams, *Daily workout for a Beautiful Voice* (Santa Barbara, CA: Santa Barbara Publishing Co., 1991), SBMP 21, videocassette.

15. Lazear, p. xvii.

16. Armstrong, p. 87.

17. Ibid, p. 88.

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